

Attachment 1 – Claims

1           1 (withdrawn). An integrated circuit comprising:  
2                   an amplifier formed on a semiconductor die, the amplifier having an  
3           output port with an output impedance; and  
4                   a bondwire electrically connecting the output port to an external  
5           conductor;  
6                   wherein the bondwire has a specified self-inductance and is operable to  
7           match the output impedance to a desired load impedance.

1           2 (withdrawn). The integrated circuit of claim 1 wherein:  
2                   the amplifier is a radio frequency power amplifier.

1           3 (withdrawn). The integrated circuit of claim 1 wherein:  
2                   the semiconductor die is a metal-oxide semiconductor die.

1           4 (withdrawn). The integrated circuit of claim 1 wherein:  
2                   the semiconductor die is a gallium arsenide semiconductor die.

1           5 (withdrawn). The integrated circuit of claim 1 wherein:  
2                   the semiconductor die is a bipolar semiconductor die.

1           6. (canceled).

1           7. (canceled).

1           8 (original).   An integrated circuit comprising:  
2                   an amplifier formed on a semiconductor die, the amplifier having an  
3           output port with an output impedance;  
4                   a bondwire having a specified self-inductance and electrically connecting  
5           the output port to an external conductor; and  
6                   a capacitor having a specified capacitance formed on the semiconductor  
7           die and electrically connected between the output port and a ground, wherein:  
8                   the bondwire and the capacitor are operable to match the output  
9           impedance to a desired load impedance.

1           9 (original).   The integrated circuit of claim 8 wherein:  
2                   the amplifier is a radio frequency power amplifier.

1           10 (original).   The integrated circuit of claim 8 wherein:  
2                   the bondwire, the capacitor and the desired load impedance are jointly  
3           operable to resonate at a normal operating frequency of the integrated circuit.

1           11 (original).   The integrated circuit of claim 8 wherein:  
2                   the semiconductor die is a metal-oxide semiconductor die.

1           12 (original).   The integrated circuit of claim 8 wherein:  
2                   the semiconductor die is a gallium arsenide semiconductor die.

1           13 (original).   The integrated circuit of claim 8 wherein:  
2                   the semiconductor die is a bipolar semiconductor die.

1 14. (canceled).

1 15 (original). An integrated circuit comprising:

2 an amplifier formed on a semiconductor die, the amplifier having an  
3 output port with an output impedance;

4 a first bondwire having a first specified self-inductance, and electrically  
5 connecting the output port to a first external conductor;

6 a second bondwire having a second specified self-inductance, and  
7 electrically connecting the first external conductor to a node on the die;

8 a first capacitor having a first capacitance formed on the semiconductor  
9 die and electrically connected between the node and a ground;

10 a second capacitor having a second capacitance embodied on the  
11 semiconductor die and electrically connected between the node and a third  
12 bondwire, the third bondwire having a third specified self-inductance and  
13 electrically connecting the second capacitor to a second external conductor

14 wherein:

15 the first, second and third bondwires and the first and second  
16 capacitors are operable to match the output impedance to a desired load  
17 impedance.

1 16 (original). The integrated circuit of claim 15 wherein:

2 the amplifier is a radio frequency power amplifier.

1 17 (original). The integrated circuit of claim 15 wherein:

2 the first capacitor is connected to ground via a further bondwire.

1 18 (original). The integrated circuit of claim 15 wherein:  
2 the further bondwire connects to a thermal pad formed within the  
3 integrated circuit.

1 19 (withdrawn). An integrated circuit comprising:  
2 a semiconductor die;  
3 a first bondwire having a first self-inductance electrically connected to the  
4 die and to an external conductor;  
5 a second bondwire having a second self-inductance electrically connected  
6 to the die and to the external conductor, wherein:  
7 the first and second bondwires are operable to act as an inductor to form at  
8 least a part of a circuit block comprised within the integrated circuit.

1 20 (withdrawn). The integrated circuit of claim 19 wherein:  
2 the circuit block is an analog circuit.

1 21 (withdrawn). The integrated circuit of claim 19 wherein:  
2 the circuit block is a radio frequency circuit.

1 22 (withdrawn). The integrated circuit of claim 19 wherein:  
2 the circuit block is selected from a list consisting of:  
3 an intra-stage match, an input stage match, a tuned circuit, an  
4 oscillator, a filter, and a pre-selector for a radio receiver.

1 23 (withdrawn). The integrated circuit of claim 19 further comprising:  
2 a further bondwire connected between the die and a ground.

1           24 (withdrawn).       The integrated circuit of claim 19 further comprising:  
2                           a further bondwire connected between the die and a thermal pad.

1           25 (withdrawn).       An integrated circuit comprising:  
2                           a semiconductor die;  
3                           a first bondwire electrically connected to the die and a periphery pad;  
4                           a second bondwire electrically connected to the die and the periphery pad,  
5           wherein:  
6                           the first and second bondwires are operable to act as an  
7                           autotransformer to form at least a part of a circuit block comprised within  
8                           the integrated circuit.

1           26 (withdrawn).       An integrated circuit comprising:  
2                           a semiconductor die;  
3                           a first bondwire electrically connected to the die and a first periphery pad;  
4                           a second bondwire electrically connected to the die and a second periphery  
5           pad, wherein:  
6                           the first and second periphery pads are electrically connected, and  
7                           the first and second bondwires are operable to act as an  
8                           autotransformer to form at least a part of a circuit block comprised within  
9                           the integrated circuit.

1           27. (canceled).

1           28. (canceled).

1 29. (canceled).

1 30. (canceled).

1 31. (canceled).

1 32 (previously presented). An integrated circuit comprising:  
2 an amplifier formed on a semiconductor die, the amplifier having an  
3 output port with an output impedance; and  
4 an impedance matching circuit connected between the output port and an  
5 external conductor, the impedance matching circuit comprising:  
6 an inductor consisting of a bondwire connecting the output port to  
7 the external conductor; and  
8 a capacitor formed on the semiconductor die and electrically  
9 connected between the output port and a ground;  
10 wherein the impedance matching circuit matches the output impedance to  
11 a desired load impedance.

1 33 (previously presented). An integrated circuit comprising:  
2 an amplifier formed on a semiconductor die, the amplifier having an  
3 output port with an output impedance;  
4 a first bondwire having a first self-inductance, and electrically connecting  
5 the output port to a first external conductor;  
6 a second bondwire having a second self-inductance, and electrically  
7 connecting the first external conductor to a node on the die;

8                   a first capacitor having a first capacitance formed on the semiconductor  
9                   die and electrically connected between the node and a ground; and  
10                  a second capacitor having a second capacitance embodied on the  
11                  semiconductor die and electrically connected between the node and a third  
12                  bondwire, the third bondwire having a third self-inductance and electrically  
13                  connecting the second capacitor to a second external conductor  
14                  wherein:  
15                          the first, second and third bondwires and the first and second  
16                  capacitors match the output impedance to a desired load impedance.

1                  34 (previously presented).    The integrated circuit of claim 33 wherein:  
2                          the amplifier is a radio frequency power amplifier.

1                  35 (previously presented).    The integrated circuit of claim 33 wherein:  
2                          the first capacitor is connected to ground via a further bondwire.

1                  36 (previously presented).    The integrated circuit of claim 33 wherein:  
2                          the further bondwire connects to a thermal pad formed within the  
3                  integrated circuit.

1                  37 (withdrawn).           An integrated circuit comprising:  
2                          a semiconductor die; and  
3                          an inductor forming at least a part of a circuit block comprised within the  
4                  integrated circuit, said inductor further comprising:  
5                          a first bondwire having a first self-inductance electrically connected to the  
6                  die at a first circuit node and to an external conductor; and

7                   a second bondwire having a second self-inductance electrically connected  
8                   to the die at a second circuit node and to the external conductor.

1           38 (withdrawn).       The integrated circuit of claim 37 wherein:  
2                   the circuit block is an analog circuit.

1           39 (withdrawn).       The integrated circuit of claim 37 wherein:  
2                   the circuit block is a radio frequency circuit

1           40 (withdrawn).       The integrated circuit of claim 37 wherein:  
2                   the circuit block is selected from a list consisting of:  
3                   an intra-stage match, an input stage match, a tuned circuit, an oscillator, a  
4                   filter, and a pre-selector for a radio receiver.

1           41 (withdrawn).       The integrated circuit of claim 37 further comprising:  
2                   a further bondwire connected between the die and a ground.

1           42 (withdrawn).       The integrated circuit of claim 37 further comprising:  
2                   a further bondwire connected between the die and a thermal pad.

1           43 (withdrawn).       An integrated circuit comprising:  
2                   a semiconductor die; and  
3                   an autotransformer forming at least a part of a circuit block comprised  
4                   within the integrated circuit, said autotransformer further comprising:  
5                   a first bondwire electrically connected to the die and a periphery pad; and  
6                   a second bondwire electrically connected to the die and the periphery pad.



1           44 (withdrawn).       An integrated circuit comprising:  
2                   a semiconductor die;  
3                   a first periphery pad;  
4                   a second periphery pad electrically connected to said first periphery pad;  
5                   and  
6                   an autotransformer forming at least a part of a circuit block comprised  
7                   within the integrated circuit, said autotransformer further comprising:  
8                           a first bondwire electrically connected to the die and said first  
9                           periphery pad; and  
10                           a second bondwire electrically connected to the die and said second  
11                           periphery pad.

1           45 (withdrawn).       An integrated circuit comprising:  
2                   a semiconductor die;  
3                   a first periphery pad;  
4                   a second periphery pad; and  
5                   a transformer to form at least a part of a circuit block comprised within the  
6                   integrated circuit, said transformer further comprising:  
7                           a first bondwire electrically connected to the die and said first  
8                           periphery pad; and  
9                           a second bondwire electrically connected to the die and said second  
10                           periphery pad.